

REMARKS

In accordance with the foregoing, claims 1, 7, 12 and 18 have been amended. No new matter is being presented, and approval and entry are respectfully requested. Therefore, claims 1, 5-8, 10-12, 16-19, 21 and 22 are pending and under consideration. Reconsideration is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

In the outstanding Office Action, claims 1, 5-8, 10-12, 16-19, 21 and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Replay Gain (RG, hereafter) in view of Takahiro (JP 02-089252), and MP3 CD Maker. The rejection is respectfully traversed.

Independent claim 1 includes a combination of elements and is directed to a method for controlling an audio recording level, comprising the steps of a) recording entry audio data in song units and simultaneously decoding the audio data, and detecting an audio level average of the decoded data in song units, and b) variably controlling an audio level of a song to be recorded later on the basis of the detected audio level average, wherein the step b) comprises calculating an offset value between the detected audio level average and an audio level average of a previously recorded song, adjusting an audio level of a subsequent song unit on the basis of the offset value, and encoding and recording the subsequent song unit having the adjusted audio level, and wherein the step (a) determines the audio level average of the decoded data by excluding certain parts of the decoded data having an audio level outside of a prescribed range extending from a maximum audio reference level to a minimum audio reference level and the audio level average of the decoded data is an average value of the decoded data having the prescribed range from the maximum audio reference level to the minimum audio reference level in the song. Independent claims 7, 12 and 18 include similar features in a varying scope.

These features are supported at least by Figure 2 and the corresponding description of the specification. For example, Figure 2 illustrates the audio level average of the decoded data is determined by excluding certain parts of the decoded data having an audio level outside of a prescribed range extending from a maximum audio reference level (Ref_Max) to a minimum audio reference level (Ref_Min). Thus, the audio level average of the decoded data is an average value of the decoded data having the prescribed range from the maximum audio reference level (Ref_Max) to the minimum audio reference level (Ref_Min) in the song.

As shown in Figures 1 and 2, the audio level detector (16) excludes an audio data level, outside of a prescribed range extending from a maximum audio reference level (Ref_Max) to a minimum audio reference level (Ref_Min). In the process of determining the audio level average, it prevents the maximum/minimum audio levels Audio_Level_Max/Min (depending on the unique characteristics for each song) from affecting the overall audio level average of every song. See also paragraph [025] of the present specification. Using the audio data within the prescribed range, the audio level detector (16) determines or calculates the audio level average for that song or the designated song unit. Then, the microcomputer (13) receives and stores the determined audio level average and maximum/minimum audio levels in song units in the memory (17).

In contrast, the cited references including RG, Takahiro and MP3 CD Maker do not teach or suggest that an audio level average of the decoded data is determined by excluding certain parts of the decoded data having an audio level outside of a prescribed range extending from a maximum audio reference level to a minimum audio reference level and the audio level average of the decoded data is an average value of the decoded data having the prescribed range from the maximum audio reference level to the minimum audio reference level in the song.

RG, on the section "2. RMS Energy Calculation", discloses the energy during each moment of the signal is determined by calculating the Root Mean Square of the

waveform every 50ms. However, the subject matter of claims 1, 7, 12 and 18 discloses the audio level average of a song is determined by calculating an average value of the decoded data having the prescribed range from the maximum audio reference level to the minimum audio reference level of the song. The Root Mean Square is an average measure of the magnitude of a varying quantity. RG does not exclude the waveform data having an outside of a prescribed range from a maximum reference level to a minimum reference level during the 50ms.

RG, on the section "3. Statistical Processing", discloses the RMS values are sorted into numerical order, and the value 5% down the list is chosen to represent the overall perceived loudness of the signal. In other words, the audio level average is determined by virtue of choosing the RMS value 5% down from the top of the sorted list. However, the subject matter of claims 1, 7, 12 and 18 chooses an average value of the decoded data having the prescribed range from the maximum audio reference level to the minimum audio reference level in a song as an audio level average of a song.

Further, RG chooses an RMS value among a plurality of RMS values. However, the subject matter calculates an average value of the waveform data from the maximum reference level to the minimum reference level in a song period.

As discussed above, RG, Takahiro or MP3 CD Maker, and any combination thereof, do not teach or suggest the features recited in independent claims 1, 7, 12 and 18. Accordingly, it is respectfully submitted independent claims 1, 7, 12 and 18 and each of the claims depending therefrom are allowable.

CONCLUSION

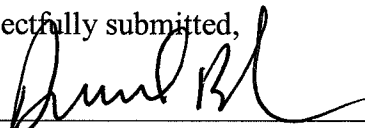
All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Mr. Jun S. Ha, Reg. No. 58,508 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: January 13, 2010

Respectfully submitted,

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